National Institute of Environmental Health Sciences

Population growth, climate change and water scarcity in the southwestern United States

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Abstract:

PROBLEM STATEMENT: In a simple economic model, water scarcity arises as a result of an imbalance between the supply of and demand for water sources. Distribution in this setting is the source of numerous conflicts globally. APPROACH: Already, the Southwestern United States (US) suffers from annual drought and long-standing feud over natural water resources. RESULTS: Population growth in the Southwestern United States along with the continued effects of climate change (natural and anthropogenic) predicts a perpetual decline in natural water sources, such as smaller snowpacks, in the coming years. As the increasing number of communities across multiple US states that subsist off of natural water supplies face water shortages with increasing severity, further water conflict will emerge. Such conflicts become especially protracted when the diversion of water from a source of benefit to one community negatively impacts nearby communities of humans and economically vital ecosystems (e.g., marshlands or tributaries). CONCLUSION/RECOMMENDATIONS: The ensuing politics and health effects of these diversions can be complicated and future water policies both domestically and internationally are lacking. To draw attention to and stimulate discussion around the lacking policy discussion domestically, herein we document existing and emerging consequences of watery scarcity in the Southwestern United States and briefly outline past and potential future policy responses.

Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3071514

Resource Description

Communication: ☑

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience: ☑

audience to whom the resource is directed

Policymaker

Exposure : ☑

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Food/Water Security, Human Conflict/Displacement

Geographic Feature:

resource focuses on specific type of geography

Freshwater

Geographic Location:

resource focuses on specific location

United States

Health Impact:

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Children, Elderly

Other Vulnerable Population: Individuals with heart or lung disease

Resource Type:

format or standard characteristic of resource

Review

Timescale:

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment:

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content